

Patent Claims

1. Method for the transmission of information in various carrier frequencies with a frequency hopping method, comprising the following steps: offering (22) a random sequence of a plurality of N possible carrier frequency values f_x in addresses 1 through N of a table (25), whereby the N possible carrier frequency values are divided into n sub-groups; 5 periodically repeated readout (30, 36) of at least a part M of the N carrier frequency values f_x from the table (25), whereby the carrier frequency values f_x within each sub-group are sequentially read out from the corresponding addresses and the sub-groups are read out in a discontinuous sequence, whereby $M \leq N$ applies; and 10 transmitting (4, 6) information in the corresponding carrier frequencies.

2. Method according to claim 1, characterized in that the step of offering a random sequence of a plurality of N possible carrier frequency values f_x in addresses a through N of the table (25) comprises the following steps: 15 generating (35) a respective random sequence of a plurality k of possible, different carrier frequency values f_x for each sub-group; writing the random sequence of the k carrier frequency values f_x into the corresponding addresses of the respective sub-group of the table, whereby $k \times n = N$ applies.

20 3. Method according to claim 1 or 2, characterized in that the following steps are implemented for the setup of a connection: sampling (31) a carrier frequency; deciding (32) whether a specific message was received on this carrier frequency during a specific time span; 25 when the decision is negative, selecting (34) a new carrier frequency and sampling (31) this new carrier frequency; when the decision is positive, editing (36) the table upon employment of the message.

4. Method according to claim 1, 2 or 3, characterized in that the following steps are implemented for the synchronization: 30 sampling (26) a carrier frequency; deciding (27) whether this carrier frequency was received during a specific time span;

when the decision is negative, selecting (28) a new carrier frequency and sampling this new carrier frequency;

when the decision is positive, searching (29) the address in the table corresponding to this carrier frequency and periodically repeated readout (30, 36) of the carrier

5 frequency values f_x proceeding from this address.

5. Method according to one of the preceding claims, characterized in that a part j of k possible carrier frequency values is read out from each sub-group of the table (25), whereby the remaining $k-j$ carrier frequency values are employed for replacing disturbed carrier frequency values of the j carrier frequency values in the 10 respective sub-group, whereby $j \times n = M$ applies.

6. Method according to claim 5, characterized in that each sub-group of the table is updated from the $k-j$ carrier frequency values before the periodically repeated read-out upon replacement of the carrier frequency values that correspond to disturbed carrier frequencies.

15 7. Apparatus for the transmission of information in various carrier frequencies with a frequency hopping method, comprising a means (23) for offering a random sequence of a plurality of N possible carrier frequency value f_x in addresses 1 through N of a table (25), whereby the N possible carrier frequency values are arranged in n sub-groups;

20 a means (30, 36) for periodically repeated readout at least a part M of the N carrier frequency values f_x from the table (25), whereby the carrier frequency values within each sub-group are sequentially read out from the corresponding addresses and the sub-groups are read out in a discontinuous sequence, whereby $M \leq N$ applies; and a means (4, 6) for transmitting information in the corresponding carrier frequencies.

25 8. Apparatus according to claim 7, characterized in that the means for editing a random sequence of a plurality of N possible carrier frequency values f_x into addresses 1 through N of a table (25) comprises:

means (35) for generating a respective random sequence of a plurality k of possible, different carrier frequency values f_x for each sub-group;

30 means for writing the random sequence of the k carrier frequency values f_x into the corresponding addresses of the respective sub-group of the table.

9. Apparatus according to claim 7 or 8, characterized in that a means for the setup of a connection is provided that comprises:

means (31) for sampling a carrier frequency;

means (32) for deciding whether a specific message was received on this carrier

5 frequency during a specific time span, configured such that, when the decision is negative, a new carrier frequency is selected and this new carrier frequency is sampled, and, when the decision is positive, the table is edited upon employment of the message.

10. Apparatus according to claim 7, 8 or 9, characterized in that a means for synchronization is provided that comprises:

means (26) for sampling a carrier frequency;

means (27) for deciding whether this carrier frequency was received during a specific time span, configured such that, when the decision is negative, a new carrier frequency is selected and this new carrier frequency is sampled, and, when the 15 decision is positive, the address in the table corresponding to this carrier frequency is sought and the carrier frequency values f_x are periodically repeatedly read out proceeding from this address.

11. Apparatus according to one of the claims 7 through 10, characterized in that the means (30, 36) for readout reads a part j of k possible carrier frequency 20 values from each sub-group of the table, whereby the remaining $k-j$ carrier frequency values are employed for replacing disturbed carrier frequency values of the j carrier frequency values in the respective sub-group, and whereby $j \times n = M$ applies.

12. Apparatus according to claim 11, characterized by a means (37, 38) for updating that updates each sub-group of the table from the $k-j$ carrier frequency 25 values before the periodically repeated readout upon replacement of the carrier frequency values that correspond to disturbed carrier frequencies.